Re-run

PCT

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RAW SEQUENCE LISTING              DATE: 05/08/2002
PATENT APPLICATION:  US/09/763,331   TIME: 14:57:07

Input Set : A:\PTO.txt
Output Set: N:\CRF3\05082002\I763331.raw
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    4 <110> APPLICANT: Martin, Charles E.
    5        Mitchell, Andrew
    8 <120> TITLE OF INVENTION: Synthetic Fatty Acid Desaturase Gene for
    9        Expression in Plants
   12 <130> FILE REFERENCE: 97-0081 PCT
C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/763,331
C--> 14 <141> CURRENT FILING DATE: 1999-08-24
   14 <150> PRIOR APPLICATION NUMBER: US 60/097,586
   15 <151> PRIOR FILING DATE: 1998-08-24
   17 <160> NUMBER OF SEQ ID NOS: 8
   19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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   23 <212> TYPE: DNA
   24 <213> ORGANISM: Saccharomyces cerevisiae
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   29 ggctactggt ttgaataaga aagcaccaag aattgtcaac ggttttggtt ctttaatggg     180
   30 ctccaaggaa atggtttccg tggaattcga caagaaggga aacgaaaaga agtccaattt     240
   31 ggatcgtctg ctagaaaagg acaaccaaga aaaagaagaa gctaaaacta aaattcacat     300
   32 ctccgaacaa ccatggactt tgaataactg gcaccaacat ttgaactggt tgaacatggt     360
   33 tcttgtttgt ggtatgccaa tgattggttg gtacttcgct ctctctggta aagtacctat     420
   34 gcatttaaac gttttccttt tctccgtttt ctactacgct gtcggtggtg tttctattac     480
   35 tgccggttac catagattat ggtctcacag atcttactcc gctcactggc cattgagatt     540
   36 attctacgct atcttcggtt gtgcttccgt tgaagggtcc gctaaatggt ggggccactc     600
   37 tcacagaatt caccatcgtt acactgatac cttgagagat ccttatgacg ctcgtagagg     660
   38 tctatggtac tcccacatgg gatggatgct tttgaagcca aatccaaaat acaaggctag     720
   39 agctgatatt accgatatga ctgatgattg gaccattaga ttccaacaca gacactacat     780
   40 cttgttgatg ttattaaccg ctttcgtcat tccaactctt atctgtggtt acttttttcaa    840
   41 cgactatatg ggtggtttga tctatgccgg ttttattcgt gtctttgtca ttcaacaagc     900
   42 taccttttgc attaactcca tggctcatta catcggtacc caaccattcg atgacagaag     960
   43 aaccctcgt gacaactgga ttactgccat tgttactttc ggtgaaggtt accataactt     1020
   44 ccaccacgaa ttcccaactg attacagaaa cgctattaag tggtaccaat acgacccaac    1080
   45 taaggttatc atctatttga cttctttagt tggtctagca tacgacttga agaaattctc    1140
   46 tcaaaatgct attgaagaag ccttgattca acaagaacaa aagaagatca ataaaaagaa    1200
   47 ggctaagatt aactggggtc cagttttgac tgatttgcca atgtgggaca aacaaacctt    1260
   48 cttggctaag tctaaggaaa caagggtttt ggttatcatt tctggtattg ttcacgacgt    1320
   49 atctggttat atctctgaac atccaggtgg tgaaacttta attaaaactg cattaggtaa    1380
   50 ggacgctacc aaggctttca gtggtggtgt ctaccgtcac tcaaatgccg ctcaaaatgt    1440
   51 cttggctgat atgagagtgg ctgttatcaa ggaaagtaag aactctgcta ttagaatggc    1500
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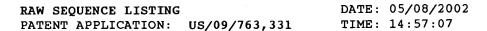
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RAW SEQUENCE LISTING   DATE: 05/08/2002
PATENT APPLICATION: US/09/763,331   TIME: 14:57:07

Input Set : A:\PTO.txt
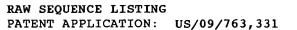Output Set: N:\CRF3\05082002\I763331.raw

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64 Glu Ala Asn Ile Leu Ala Thr Gly Leu Asn Lys Lys Ala Pro Arg Ile
65          35              40              45
66 Val Asn Gly Phe Gly Ser Leu Met Gly Ser Lys Glu Met Val Ser Val
67      50              55              60
68 Glu Phe Asp Lys Lys Gly Asn Glu Lys Lys Ser Asn Leu Asp Arg Leu
69 65              70              75              80
70 Leu Glu Lys Asp Asn Gln Glu Lys Glu Glu Ala Lys Thr Lys Ile His
71              85              90              95
72 Ile Ser Glu Gln Pro Trp Thr Leu Asn Asn Trp His Gln His Leu Asn
73          100             105             110
74 Trp Leu Asn Met Val Leu Val Cys Gly Met Pro Met Ile Gly Trp Tyr
75          115             120             125
76 Phe Ala Leu Ser Gly Lys Val Pro Leu His Leu Asn Val Phe Leu Phe
77      130             135             140
78 Ser Val Phe Tyr Tyr Ala Val Gly Gly Val Ser Ile Thr Ala Gly Tyr
79 145             150             155             160
80 His Arg Leu Trp Ser His Arg Ser Tyr Ser Ala His Trp Pro Leu Arg
81              165             170             175
82 Leu Phe Tyr Ala Ile Phe Gly Cys Ala Ser Val Glu Gly Ser Ala Lys
83          180             185             190
84 Trp Trp Gly His Ser His Arg Ile His His Arg Tyr Thr Asp Thr Leu
85          195             200             205
86 Arg Asp Pro Tyr Asp Ala Arg Arg Gly Leu Trp Tyr Ser His Met Gly
87      210             215             220
88 Trp Met Leu Leu Lys Pro Asn Pro Lys Tyr Lys Ala Arg Ala Asp Ile
89 225             230             235             240
90 Thr Asp Met Thr Asp Asp Trp Thr Ile Arg Phe Gln His Arg His Tyr
91              245             250             255
92 Ile Leu Leu Met Leu Leu Thr Ala Phe Val Ile Pro Thr Leu Ile Cys
93          260             265             270
94 Gly Tyr Phe Phe Asn Asp Tyr Met Gly Gly Leu Ile Tyr Ala Gly Phe
95      275             280             285
96 Ile Arg Val Phe Val Ile Gln Gln Ala Thr Phe Cys Ile Asn Ser Leu
97      290             295             300
98 Ala His Tyr Ile Gly Thr Gln Pro Phe Asp Asp Arg Arg Thr Pro Arg
99 305             310             315             320
100 Asp Asn Trp Ile Thr Ala Ile Val Thr Phe Gly Glu Gly Tyr His Asn
101             325             330             335
102 Phe His His Glu Phe Pro Thr Asp Tyr Arg Asn Ala Ile Lys Trp Tyr
103             340             345             350
104 Gln Tyr Asp Pro Thr Lys Val Ile Ile Tyr Leu Thr Ser Leu Val Gly
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105        355              360              365
106 Leu Ala Tyr Asp Leu Lys Lys Phe Ser Gln Asn Ala Ile Glu Glu Ala
107     370              375              380
108 Leu Ile Gln Gln Glu Gln Lys Lys Ile Asn Lys Lys Lys Ala Lys Ile
109 385              390              395              400
110 Asn Trp Gly Pro Val Leu Thr Asp Leu Pro Met Trp Asp Lys Gln Thr
111             405              410              415
112 Phe Leu Ala Lys Ser Lys Glu Asn Lys Gly Leu Val Ile Ile Ser Gly
113     420              425              430
114 Ile Val His Asp Val Ser Gly Tyr Ile Ser Glu His Pro Gly Gly Glu
115     435              440              445
116 Thr Leu Ile Lys Thr Ala Leu Gly Lys Asp Ala Thr Lys Ala Phe Ser
117   450              455              460
118 Gly Gly Val Tyr Arg His Ser Asn Ala Ala Gln Asn Val Leu Ala Asp
119 465              470              475              480
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129 <213> ORGANISM: Artificial Sequence
131 <220> FEATURE:
132 <223> OTHER INFORMATION: synthetic yeast delta-9 desaturase gene modified
133       for expression in plants
135 <400> SEQUENCE: 3
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137 ggatgattct gcttcttctg gaatcgttga tgaggttgat cttactgagg ctaacatcct   120
138 tgctactgga cttaacaaga aggctcctag aatcgttaac ggattcggat ctcttatggg   180
139 atctaaggag atggtttctg ttgagttcga taagaaggga aacgagaaga agtctaacct   240
140 tgatagactt cttgagaagg ataaccaaga gaaggaggag gctaagacta agatccatat   300
141 ctctgagcaa ccttggactc tcaacaactg gcatcaacat ctcaactggc tcaacatggt   360
142 gctcgtctgt ggaatgccta tgatcggatg gtacttcgct ctctctggaa aagtgcctct   420
143 ccatctcaac gtttttcctct tctctgtctt ctactacgct gttggaggag tgtctatcac   480
144 tgctggatac catagactct ggtctcatag atcttactct gctcattggc ctcttagact   540
145 cttctacgct atctttggat gtgcttctgt tgagggatct gctaagtggt ggggacattc   600
146 tcatagaatc catcatagat acactgatac tcttagagat ccttacgatg ctagaagagg   660
147 actttggtac tctcatatgg gatggatgct tcttaagcct aaccctaagt acaaggctag   720
148 agctgatatc actgatatga ctgatgattg gactatcaga ttccaacata gacattacat   780
149 cttgctcatg ctccttactg ctttcgtgat ccctactctc atctgtggat acttcttcaa   840
150 cgattacatg ggaggactca tctacgctgg attcatcaga gtgttcgtca tccaacaagc   900
151 tactttctgt atcaactcta tggctcatta catcggaact caacctttcg atgatagaag   960
152 aactcctaga gataactgga tcactgctat cgttactttc ggagagggat accataactt  1020
153 ccatcatgag ttccctactg attatagaaa cgctatcaag tggtaccaat acgatcctac  1080
154 taaagtgatc atctacttga cttctctcgt gggacttgct tacgatctca gagaagttctc  1140
155 tcaaaacgct atcgaggagg ctcttatcca acaagagcaa aagaagatca acaagaagaa  1200
156 ggctaagatt aattggggac ctgttcttac tgatcttcct atgtgggata agcaaacttt  1260
157 ccttgctaag tctaaggaga acaagggact tgttatcatc tctggaatcg ttcatgatgt  1320
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160 gcttgctgat atgagagttg ctgttatcaa ggagtctaag aactctgcta tcagaatggc     1500
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164 <211> LENGTH: 383
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172             20                  25                  30
173 Val Gly Asp Leu Lys Lys Ala Ile Pro Pro His Cys Phe Lys Arg Ser
174         35                  40                  45
175 Ile Pro Arg Ser Phe Ser Tyr Leu Ile Ser Asp Ile Ile Ile Ala Ser
176     50                  55                  60
177 Cys Phe Tyr Tyr Val Ala Thr Asn Tyr Phe Ser Leu Leu Pro Gln Pro
178 65                  70                  75                  80
179 Leu Ser Tyr Leu Ala Trp Pro Leu Tyr Trp Ala Cys Gln Gly Cys Val
180             85                  90                  95
181 Leu Thr Gly Ile Trp Val Ile Ala His Glu Cys Gly His His Ala Phe
182             100                 105                 110
183 Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile Phe His Ser
184         115                 120                 125
185 Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His Arg Arg His
186     130                 135                 140
187 His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys
188 145                 150                 155                 160
189 Gln Lys Ser Ala Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu
190             165                 170                 175
191 Gly Arg Ile Met Met Leu Thr Val Gln Phe Val Leu Gly Trp Pro Leu
192             180                 185                 190
193 Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly Phe Ala Cys
194         195                 200                 205
195 His Phe Phe Pro Asn Ala Pro Ile Tyr Asn Asp Arg Glu Arg Leu Gln
196     210                 215                 220
197 Ile Tyr Leu Ser Asp Ala Gly Ile Leu Ala Val Cys Phe Gly Leu Tyr
198 225                 230                 235                 240
199 Arg Tyr Ala Ala Ala Gln Gly Met Ala Ser Met Ile Cys Leu Tyr Gly
200             245                 250                 255
201 Val Pro Leu Leu Ile Val Asn Ala Phe Leu Val Leu Ile Thr Tyr Leu
202             260                 265                 270
203 Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser Ser Glu Trp Asp
204         275                 280                 285
205 Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Asp Tyr Gly Ile Leu
206     290                ‾ 295                 300
207 Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Leu
208 305                 310                 315                 320
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Input Set : A:\PTO.txt
Output Set: N:\CRF3\05082002\I763331.raw

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209 Phe Ser Thr Met Pro His Tyr Asn Ala Met Glu Ala Thr Lys Ala Ile
210               325             330             335
211 Lys Pro Ile Leu Gly Asp Tyr Tyr Gln Phe Asp Gly Thr Pro Trp Tyr
212               340             345             350
213 Val Ala Met Tyr Arg Glu Ala Lys Glu Cys Ile Tyr Val Glu Pro Asp
214           355             360             365
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227 ctacttcttc caagaaatcg gaaaccgaca ccacaaagcg tgtgccgtgc gagaaaccgc      180
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229 ctcgctcttt ctcctacctt atcagtgaca tcattatagc ctcatgcttc tactacgtcg      300
230 ccaccaatta cttctctctc ctccctcagc ctctctctta cttggcttgg ccactctatt      360
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232 acgcattcag cgactaccaa tggctggatg acacagttgg tcttatcttc cattccttcc      480
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235 aatacctcaa caaccctctt ggacgcatca tgatgttaac cgtccagttt gtcctcgggt      660
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237 tcttccccaa cgctcccatc tacaatgacc gagaacgcct ccagatatac ctctctgatg      780
238 cgggtattct agccgtctgt tttggtcttt accgttacgc tgctgcacaa gggatggcct      840
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244 cgtggtatgt agcgatgtat agggaggcaa aggagtgtat ctatgtagaa ccggacaggg     1200
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246 attgtcgacc tttctcttgt ctgtttgtct tttgttaaag aagctatgct tcgtttttaat    1320
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263           20             25             30
264 Leu
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/763,331

DATE: 05/08/2002
TIME: 14:57:08

Input Set : **A:\PTO.txt**
Output Set: **N:\CRF3\05082002\I763331.raw**

L:14 M:270 C: Current Application Number differs, Replaced Current Application No
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:252 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (6) SEQUENCE: